III. DATA

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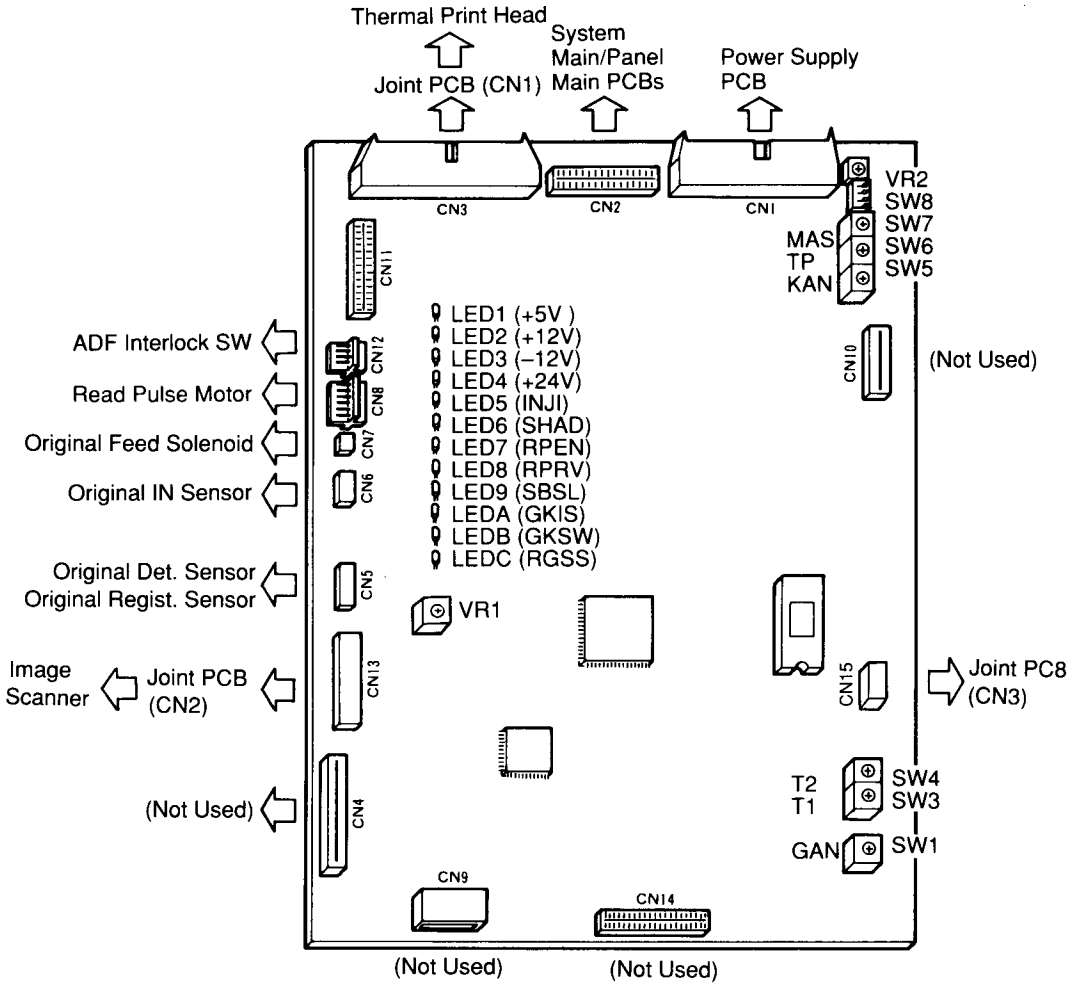
1. Description of PCBs

1. IMAGE PROCESSING PCB III (GA)



LED **- When LED is ON -**

LED1 (+5V)	:	+5V is supplied into PCB.
LED2 (+12V)	:	+12V is supplied into PCB.
LED3 (-12V)	:	-12V is supplied into PCB.
LED4 (+24V)	:	+24V is supplied into PCB.
LED5 (INJI)	:	"Read/Write Start Signal" is output.
LED6 (SHAD)	:	"Shading Compensation Signal" is output.
LED7 (RPEN)	:	Read Pulse Motor is ON.
LED8 (RPRV)	:	Read Pulse Motor is rotating CCW.
LED9 (SBSL)	:	Original Feed Solenoid is ON.
LEDA (GKIS)	:	Original IN Sensor is activated.
LEDB (GKSW)	:	Original Det. Sensor is activated.
LEDC (RGSS)	:	Original Regist. Sensor is activated.

1. Image processing PCB III (GA)

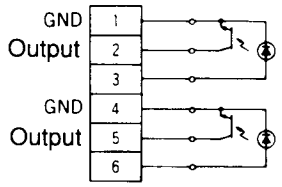
VR

VR1 (GNE) : For detection sensitivity adjustment of Original IN Sensor
(The sensitivity goes up by turning it clockwise.)
VR2 (NDD) : For contrast level adjustment in image scanning
(The contrast will be darker by turning it clockwise.)

SW

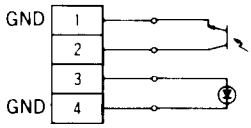
SW1 (GAN) : For contrast balance (Γ compensation) adjustment in image scanning
SW3 (T1) : For adjustment of heating power (HP1) of Thermal Print Head
SW4 (T2) : For adjustment of heating power (HP2) of Thermal Print Head
SW5 (KAN) : Not Used
SW6 (TP) : Not Used
SW7 (MAS) : For adjustment of "Line-copy mode slice level"
SW8 (Dip SW) : Used only for adjustment in factory (All 4 DIP switches must be OFF.)

CN5 6 pins



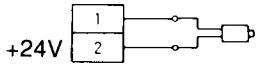
Original Detection Sensor
(LOW when light path is open)
Original Registration Sensor
(LOW when light path is open)

CN6 4 pins



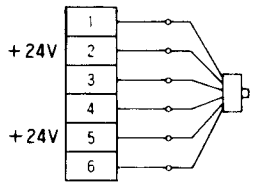
Original IN Sensor (Receive)
(HIGH when light path is blocked)
Original IN Sensor (Send)

CN7 2 pins



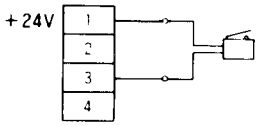
Original Feed Solenoid

CN8 6 pins



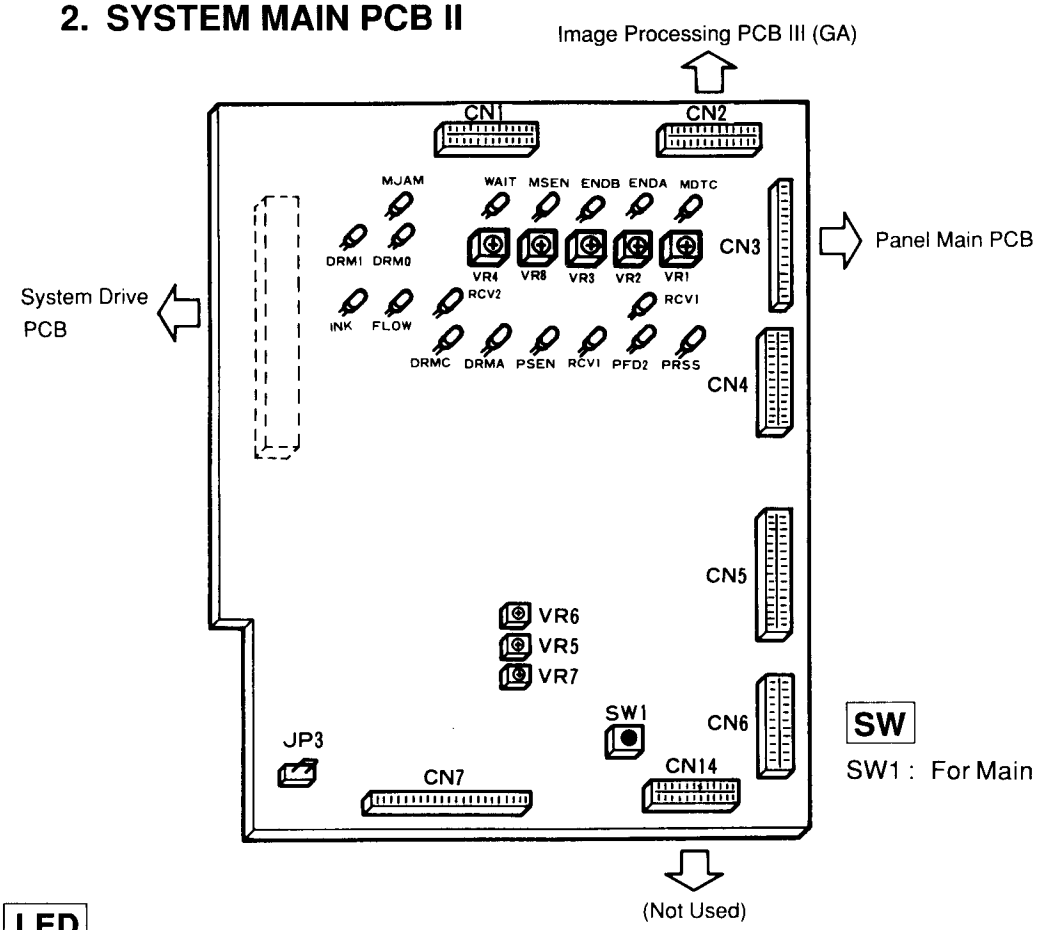
Read Pulse Motor

CN12 4 pins



ADF Interlock Sw (N/O)

2. SYSTEM MAIN PCB II



SW

SW1 : For Main Motor rotation (30 rpm)

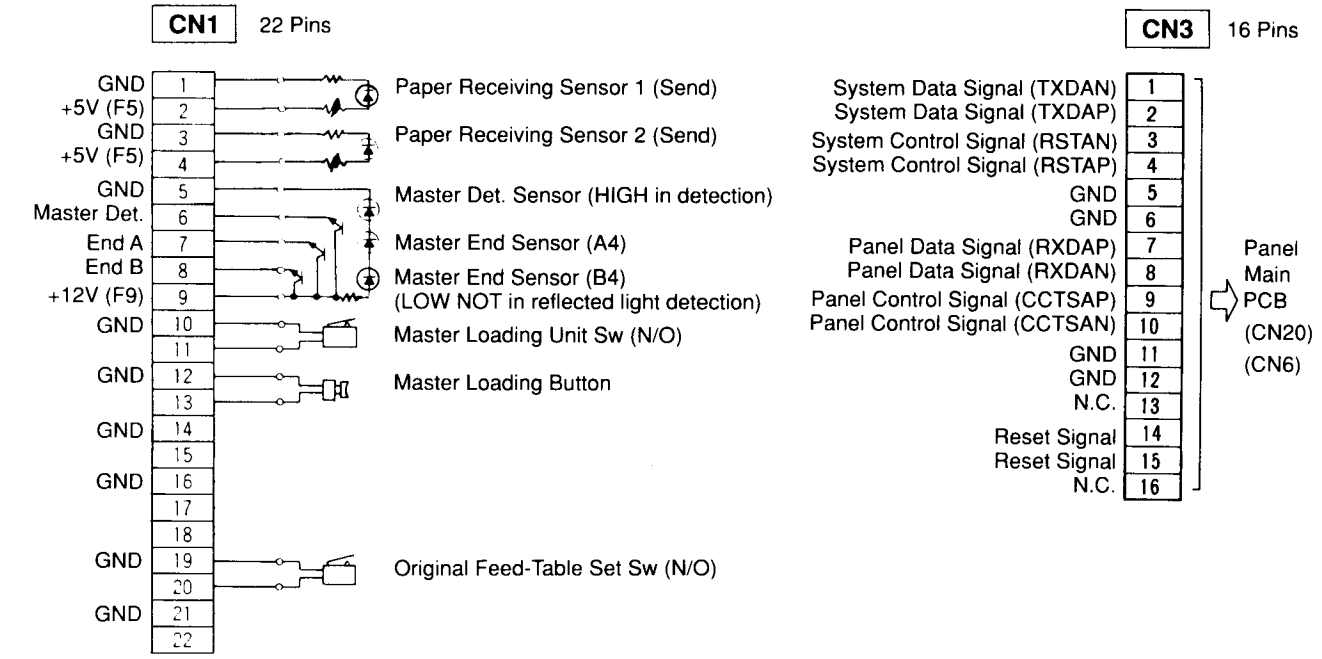
LED

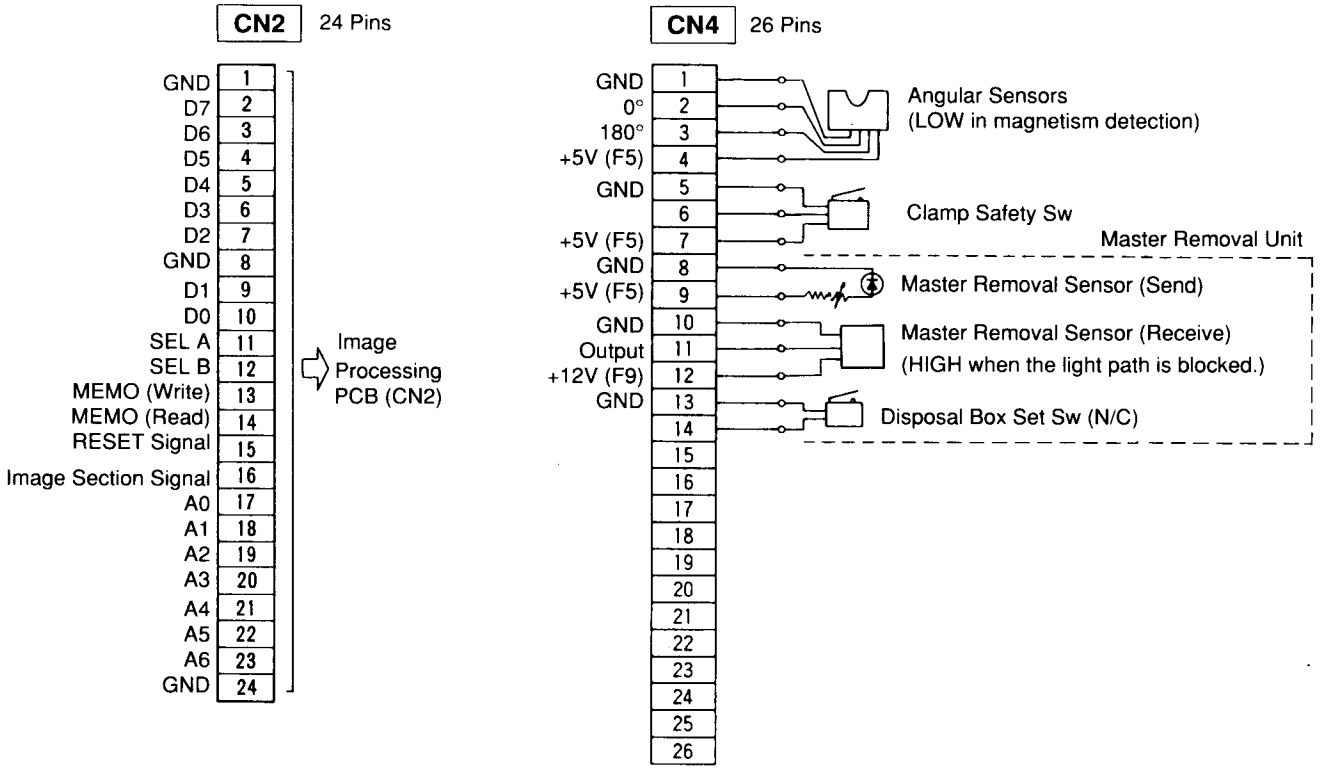
– When LED is ON –

- MDTC : Master Det. Sensor is detecting reflected light (Master).
- ENDA : Master End Sensor (A4) is NOT detecting reflected light.
- ENDB : Master End Sensor (B4) is NOT detecting reflected light.
- MSEN : Master Sensor is detecting reflected light (Master).
- WAIT : Master Positioning Sensor is detecting reflected light (Master).
- MJAM : The light path of Master Removal Sensor is blocked.
- DRM0 : 0° Angular Sensor is detecting magnetism (Angular Magnet).
- DRM1 : 180° Angular Sensor is detecting magnetism (Angular Magnet).
- PFD1 : The actuator of Paper Buckle Det. Sensor is raised to open the light path.
- RCV2 : The light path of Paper Receiving Sensor 2 is blocked.
- FLOW : Overflow Sensor is detecting ink.
- INK : Ink Sensor is NOT detecting ink.
- PRSS : The light path of Pressure Detection Sensor is blocked.
- PFD2 : The light path of Paper Feed Clutch Sensor is open.
- RCV1 : The light path of Paper Receiving Sensor 1 is blocked.
- PSEN : The light path of Paper Sensor is blocked.
- DRMA : Magnet A Detection Sensor is detecting magnetism (Magnet A).
- DRMC : Magnet C Detection Sensor is detecting magnetism (Magnet C-1 or -2).

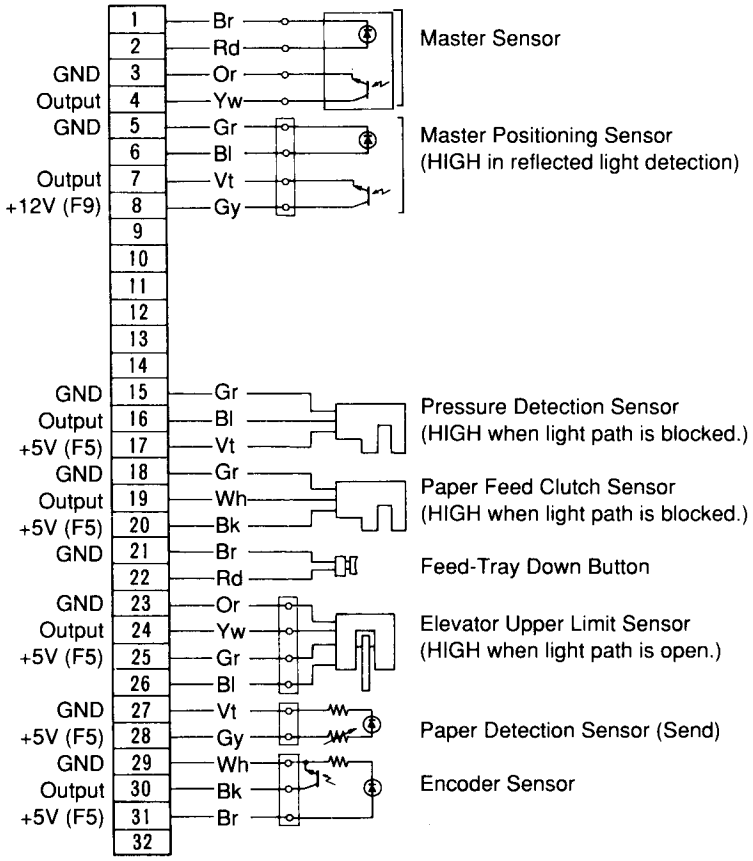
VR

- VR1 : For detection sensitivity adjustment of Master Det. Sensor (Sensitivity goes up by clockwise rotation.)
- VR2 : For detection sensitivity adjustment of Master End Sensor-A4 (Sensitivity goes up by clockwise rotation.)
- VR3 : For detection sensitivity adjustment of Master End Sensor-B4 (Sensitivity goes up by clockwise rotation.)
- VR4 : For detection sensitivity adjustment of Master Positioning Sensor (Sensitivity goes up by clockwise rotation.)
- VR5 : For adjustment of "Free rotation speed" (30 rpm) (The speed goes up by clockwise rotation.)
- VR6 : For adjustment of "Master loading speed" (15 rpm) (The speed goes up by clockwise rotation.)
- VR7 : For adjustment of "Print speed" (130 rpm) (The speed goes up by clockwise rotation.)
- VR8 : For detection sensitivity adjustment of Master Sensor (Sensitivity goes up by clockwise rotation.)

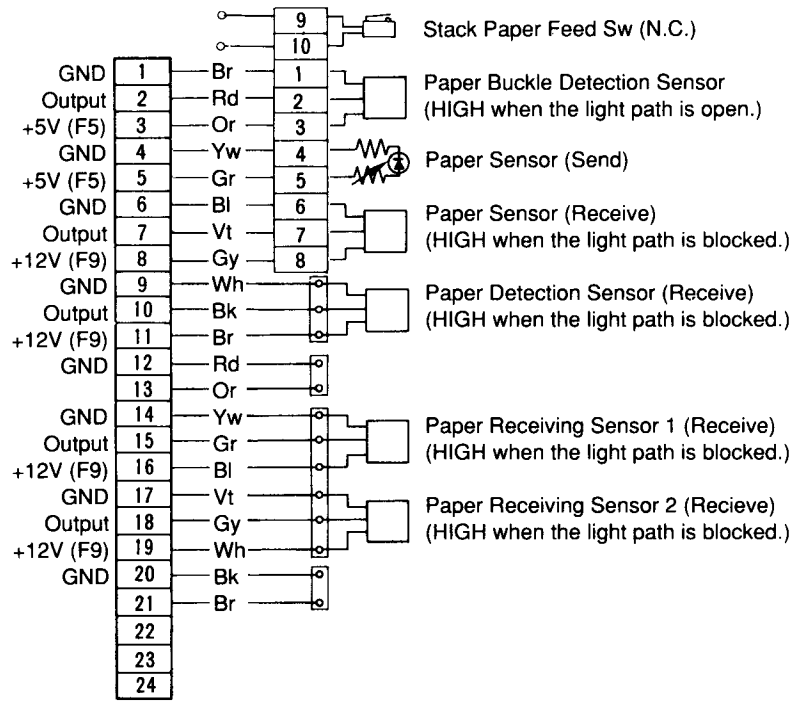

CN1
22 Pins
GND 1
+5V (F5) 2
GND 3
+5V (F5) 4
GND 5
Master Det. 6
End A 7
End B 8
+12V (F9) 9
GND 10
11
GND 12
13
GND 14
15
GND 16
17
18
GND 19
20
GND 21
22
Paper Receiving Sensor 1 (Send)
Paper Receiving Sensor 2 (Send)
Master Det. Sensor (HIGH in detection)
Master End Sensor (A4)
Master End Sensor (B4)
(LOW NOT in reflected light detection)
Master Loading Unit Sw (N/O)
Master Loading Button
Original Feed-Table Set Sw (N/O)
CN3
16 Pins
System Data Signal (TXDAN) 1
System Data Signal (TXDAP) 2
System Control Signal (RSTAN) 3
System Control Signal (RSTAP) 4
GND 5
GND 6
Panel Data Signal (RXDAP) 7
Panel Data Signal (RXDAN) 8
Panel Control Signal (CCTSAP) 9
Panel Control Signal (CCTSAN) 10
GND 11
GND 12
N.C. 13
Reset Signal 14
Reset Signal 15
N.C. 16
Panel Main PCB (CN20) (CN6)


CN2
24 Pins
GND 1
D7 2
D6 3
D5 4
D4 5
D3 6
D2 7
GND 8
D1 9
D0 10
SEL A 11
SEL B 12
MEMO (Write) 13
MEMO (Read) 14
RESET Signal 15
Image Section Signal 16
A0 17
A1 18
A2 19
A3 20
A4 21
A5 22
A6 23
GND 24
Image Processing PCB (CN2)
CN4
26 Pins
GND 1
0° 2
180° 3
+5V (F5) 4
GND 5
6
+5V (F5) 7
GND 8
+5V (F5) 9
GND 10
Output 11
+12V (F9) 12
GND 13
14
15
16
17
18
19
20
21
22
23
24
25
26
Angular Sensors
(LOW in magnetism detection)
Clamp Safety Sw
Master Removal Unit
Master Removal Sensor (Send)
Master Removal Sensor (Receive)
(HIGH when the light path is blocked.)
Disposal Box Set Sw (N/C)

CN5 32 Pins



CN6 24Pins



2. System Main PCB II

CNA 96 Pins

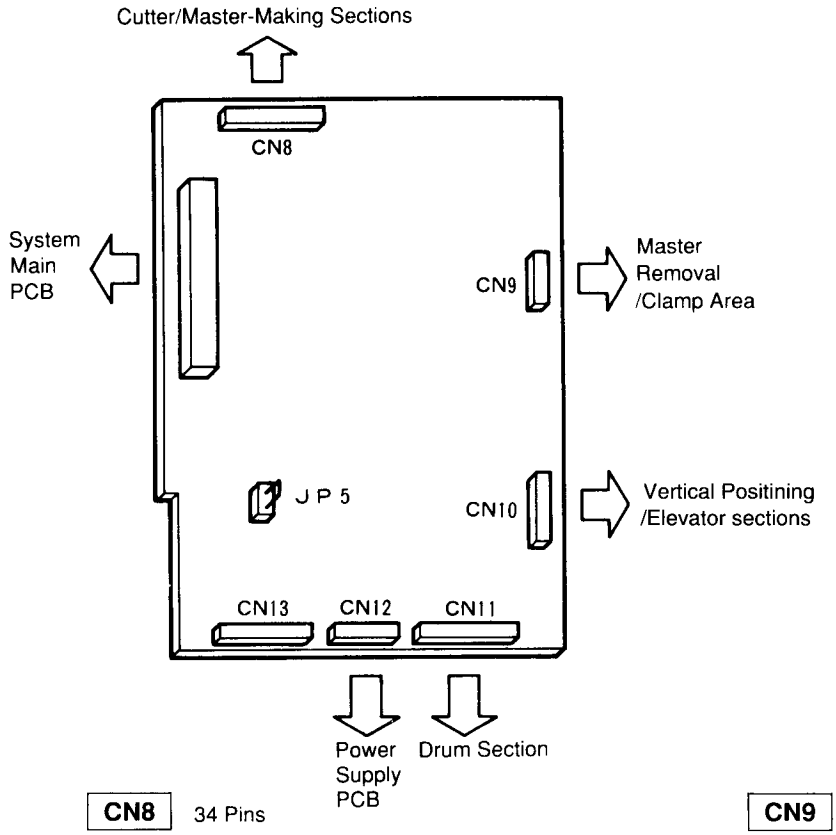
System Drive PCB (CNA)

1	GND
2	GND
3	GND
4	GND
5	GND
6	GND
7	+5V (F5)
8	+5V (F5)
9	+5V (F5)
10	Sorter Connect Signal
11	Ink Sensor
12	Overflow Sensor
13	Ink Data Signal
14	Drum Home Position SW
15	Ink Bottle SW
16	Drum Set SW
17	Drum Data Signal
18	Tape End Signal
19	Vertical Centering Sensor
20	
21	
22	
23	Paper Full Stack Signal
24	Sorter Set Signal
25	Print Position Motor Busy
26	Write Pulse Motor CW/CCW
27	Write Pulse Motor (Enable Signal)
28	Loading Pulse Motor (Enable Signal)
29	Separation Fan
30	
31	Inking Motor
32	Lock Solenoid
33	Drum Home Position Lamp
34	Master Count Signal
35	Copy Count Signal
36	Storage Fan
37	Thermal Pressure Motor
38	Suction Fan Control
39	Loading Fan
40	Reset
41	Cutter Motor
42	Clamp Motor CW/CCW
43	Clamp Motor ON/OFF
44	Print Position Motor TRIGGER
45	Print Position Motor CW/CCW
46	Print Signal
47	Pressure Solenoid
48	M.-Rmv. Vertical Transport Motor
49	
50	Elevator Lower Limit SW

System Drive PCB (CNA)

51	Elevator Motor UP/DOWN
52	Elevator Motor ON/OFF
53	Clamp Solenoid
54	Pressure Control Motor CTL 3
55	N.C.
56	Master-make Start/Stop Signal
57	Print Start/Stop Signal
58	Pressure Control Motor CTL 2
59	Pressure Control Motor CTL 1
60	Cluster Signal A
61	Cluster Signal B
62	Status 1
63	Status 2
64	Magnet A Det. Sensor
65	Paper Sensor
66	Paper Receiving Sensor 2
67	Counter Set Signal
68	TXDB
69	Main Motor Pulse K
70	Magnet C Det. Sensor
71	RXDB
72	Main Motor Pulse A
73	Magnet A Det. Sensor
74	RTSB
75	Main Motor Brake A
76	Power Fail
77	CTSB
78	Main Motor Brake K
79	Clock
80	Write Pulse Motor Clock
81	Front Cover Set Signal
82	P.-F. Clutch/Paper Buckle Det. Sensor
83	N.C.
84	N.C.
85	+12V (F9)
86	+12V (F9)
87	+12V (F9)
88	−12V (F10)
89	−12V (F10)
90	−12V (F10)
91	+24V (F6)
92	+24V (F6)
93	+24V (F6)
94	GND
95	GND
96	GND

3. SYSTEM DRIVE PCB II



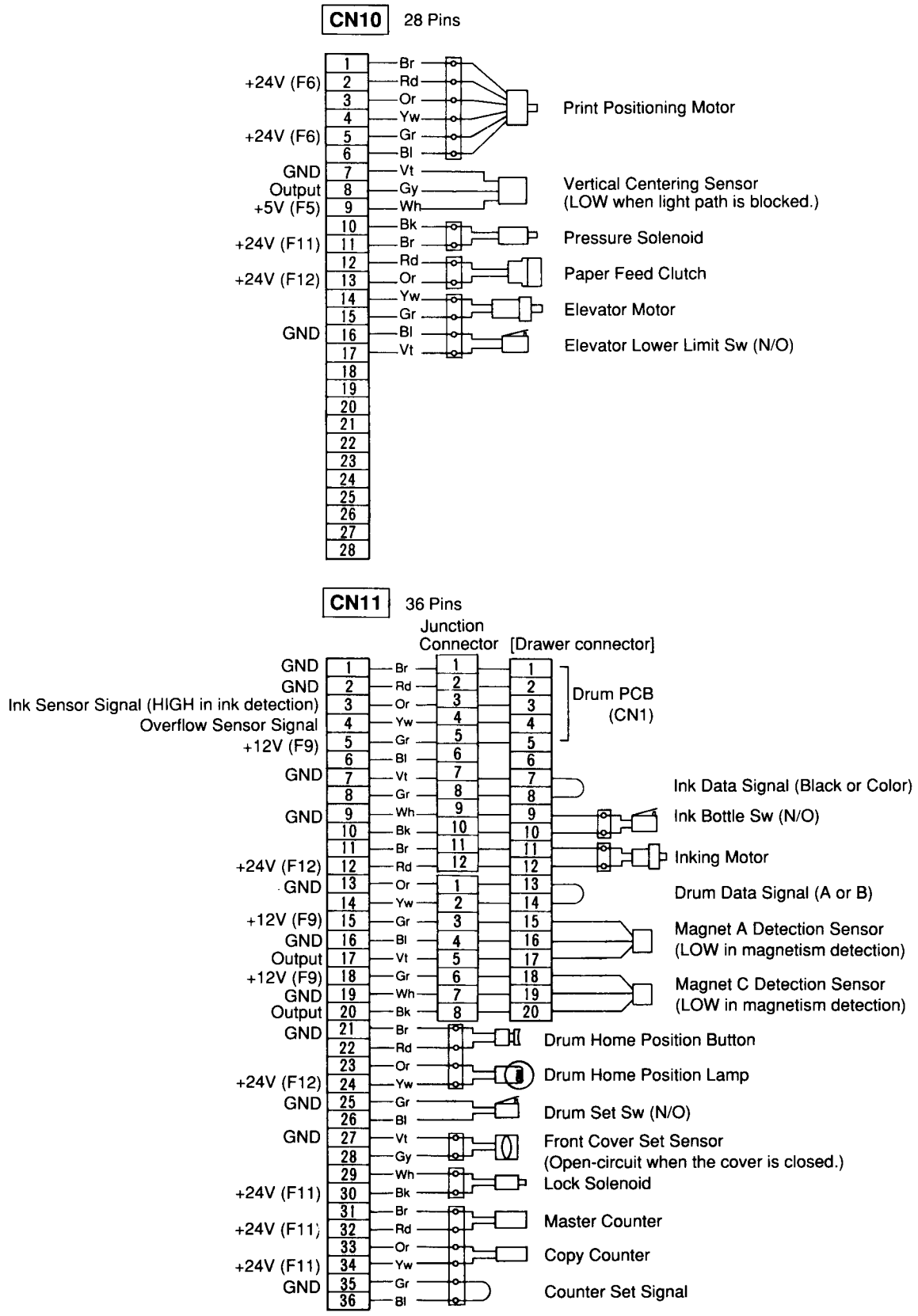
CN8 34 Pins

GND	1	Br	Cutter Motor
	2	Rd	
	3	Or	Cutter Position Sw (N/O)
GND	4	Yw	
	5	Gr	
	6	Bl	
	7	Vt	
	8	Gy	
	9	Wh	
+24V (F11)	10	Bk	White Pulse Motor
	11	Br	
	12	Rd	
+24V (F11)	13	Or	
	14	Yw	
	15	Gr	
+24V (F11)	16	Bl	Loading Pulse Motor
	17	Vt	
	18	Gy	
+24V (F11)	19	Wh	
	20	Bk	
	21	Br	
+24V (F12)	22	Rd	Loading Fan
	23	Or	
+24V (F12)	24	Yw	Storage Fan
	25	Gr	
+24V (F12)	26	Bl	
	27	Vt	
	28	Gy	
	29	Wh	Thermal Pressure Motor
	30	Bk	
GND	31	Br	TPH Pressure Sw (N/O)
	32	Rd	
GND	33	Or	TPH Home Position Sw (N/O)
	34	Yw	

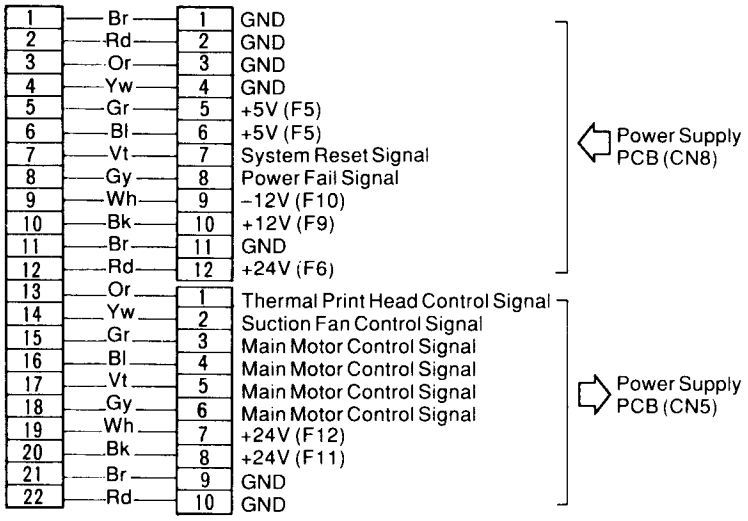
CN9 18 Pins

	1	Br	Clamp Motor
	2	Rd	
	3	Or	Clamp Solenoid
+24V (F6)	4	Yw	
	5	Gr	M-Rmv. Vertical Transport Motor
+24V (F12)	6	Bl	
	7	Vt	Master Removal Solenoid
+24V (F12)	8	Gy	
	9	Wh	
+24V (F12)	10	Bk	
GND	11	Br	
	12	Rd	
	13	Or	Separation Fan
+24V (F12)	14	Yw	
	15		
	16		
	17		
	18		

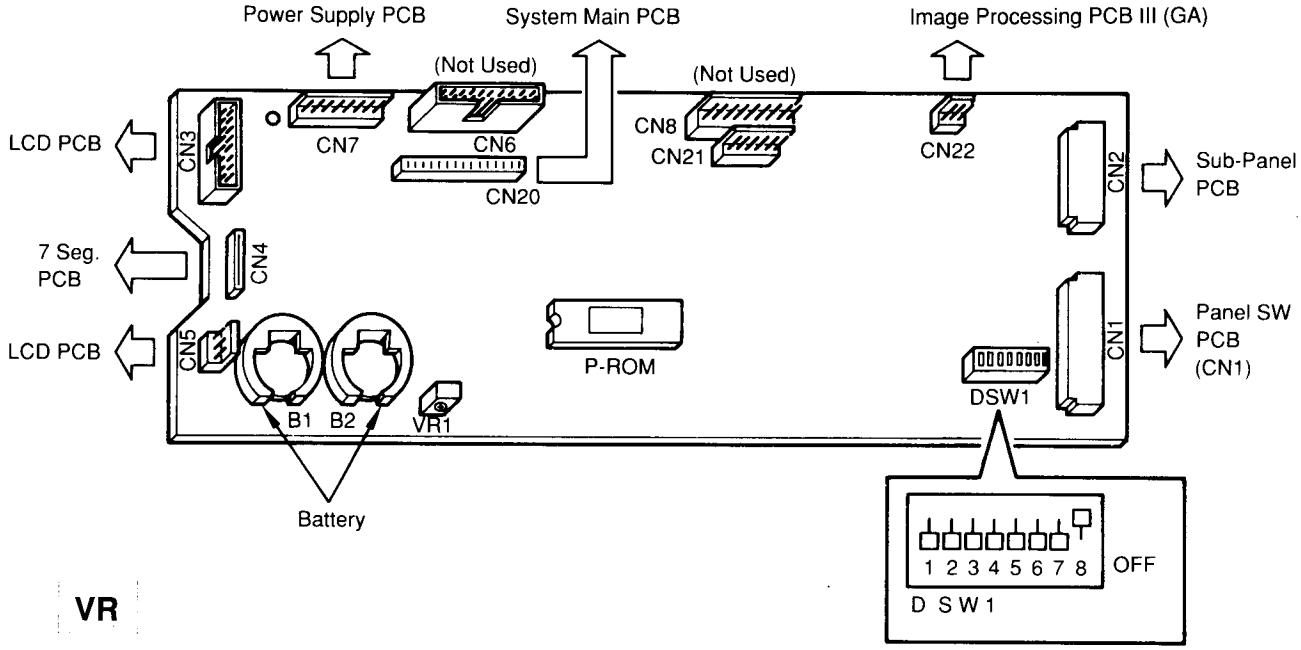
Master Removal Unit


CN10
28 Pins
+24V (F6)
+24V (F6)
GND
Output
+5V (F5)
+24V (F11)
+24V (F12)
GND
Br
Rd
Or
Yw
Gr
Bl
Vt
Gy
Wh
Bk
Print Positioning Motor
Vertical Centering Sensor
(LOW when light path is blocked.)
Pressure Solenoid
Paper Feed Clutch
Elevator Motor
Elevator Lower Limit Sw (N/O)
CN11
36 Pins
Junction Connector
[Drawer connector]
GND
GND
Ink Sensor Signal (HIGH in ink detection)
Overflow Sensor Signal
+12V (F9)
GND
GND
+24V (F12)
GND
+12V (F9)
GND
Output
+12V (F9)
GND
Output
GND
+24V (F12)
GND
GND
+24V (F11)
+24V (F11)
+24V (F11)
GND
Drum PCB (CN1)
Ink Data Signal (Black or Color)
Ink Bottle Sw (N/O)
Inking Motor
Drum Data Signal (A or B)
Magnet A Detection Sensor
(LOW in magnetism detection)
Magnet C Detection Sensor
(LOW in magnetism detection)
Drum Home Position Button
Drum Home Position Lamp
Drum Set Sw (N/O)
Front Cover Set Sensor
(Open-circuit when the cover is closed.)
Lock Solenoid
Master Counter
Copy Counter
Counter Set Signal

CN12 22 Pins


1 Br 1 GND
2 Rd 2 GND
3 Or 3 GND
4 Yw 4 GND
5 Gr 5 +5V (F5)
6 Bl 6 +5V (F5)
7 Vt 7 System Reset Signal
8 Gy 8 Power Fail Signal
9 Wh 9 −12V (F10)
10 Bk 10 +12V (F9)
11 Br 11 GND
12 Rd 12 +24V (F6)
Power Supply PCB (CN8)
13 Or 1 Thermal Print Head Control Signal
14 Yw 2 Suction Fan Control Signal
15 Gr 3 Main Motor Control Signal
16 Bl 4 Main Motor Control Signal
17 Vt 5 Main Motor Control Signal
18 Gy 6 Main Motor Control Signal
19 Wh 7 +24V (F12)
20 Bk 8 +24V (F11)
21 Br 9 GND
22 Rd 10 GND
Power Supply PCB (CN5)

4. PANEL MAIN PCB



VR

VR1 : For luminosity adjustment of LCD panel

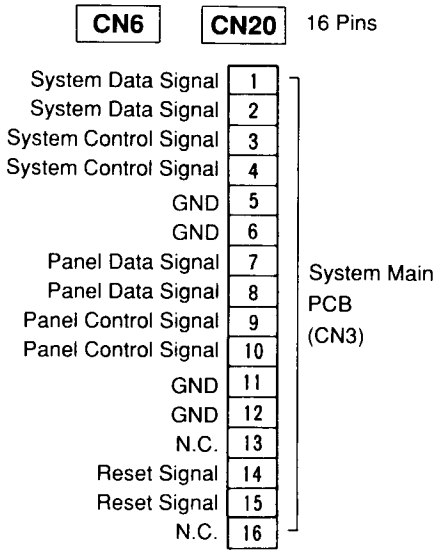
SW

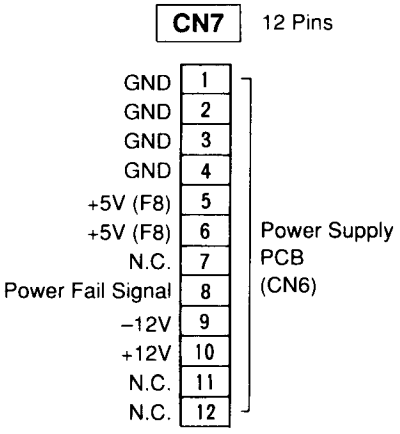
SW	FUNCTION	OFF	ON
DSw1-1	The initial print speed selection *1	100 rpm	60 rpm
DSw1-2	The initial ADF setting selection	ADF OFF	ADF ON
DSw1-3	Selection of the timer for Auto-idling	12 hours	6 hours
DSw1-4	Priority selection between Density- and Speed-Change modes *2	Density-Change	Speed-Change
DSw1-5 DSw1-6 DSw1-7 DSw1-8	*3		

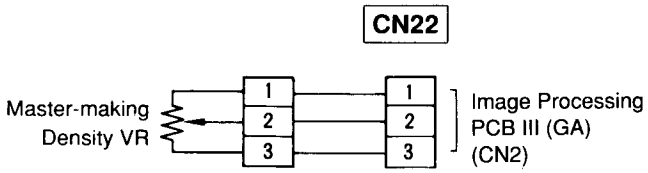
*1 Functions only in Speed-Change mode.
*2 Functions only in RC5600.

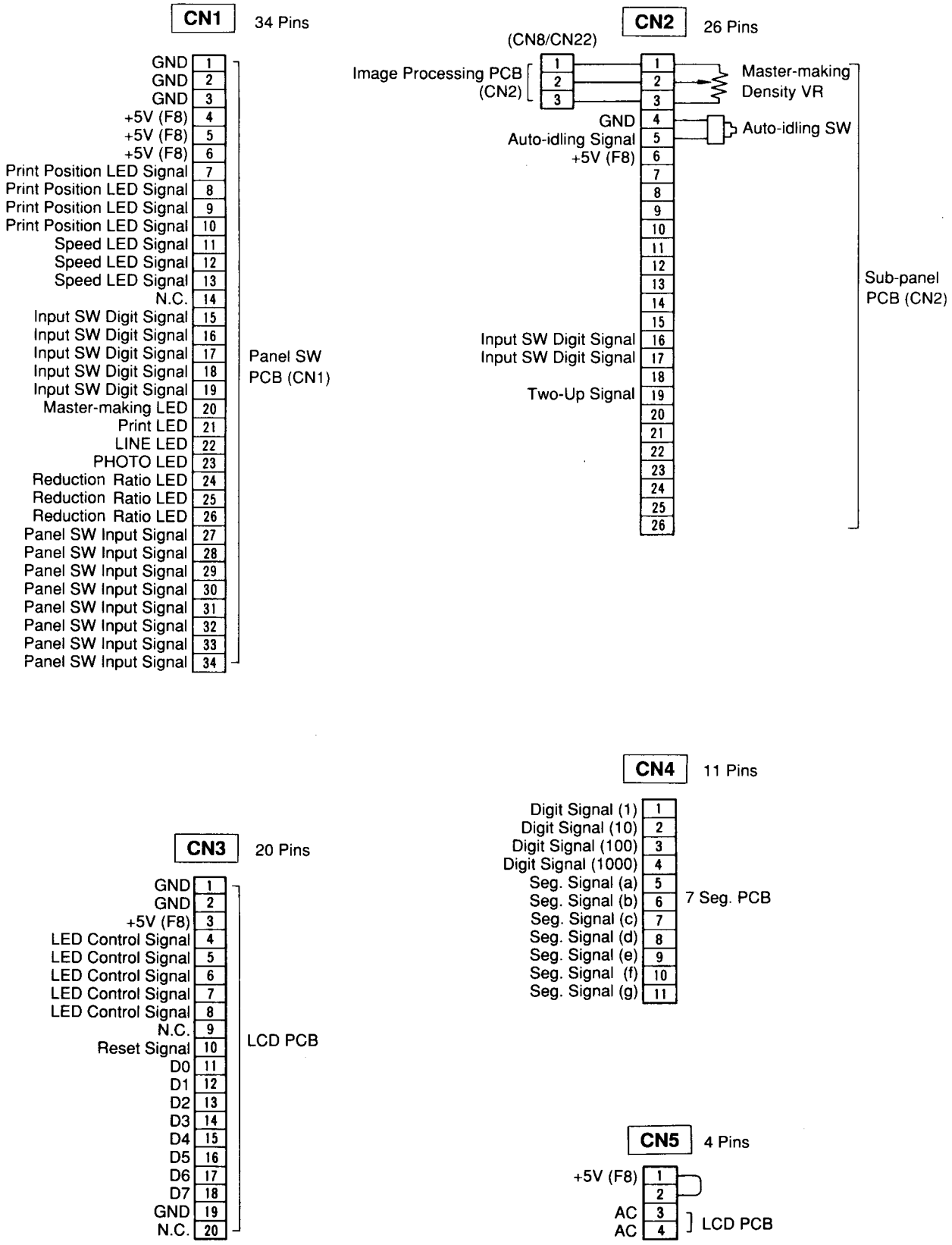
*3 **Model Selection**

Sw No.	56/US	45/US	56/A4	56/B4	45/A4	45/B4	40/US	40/A4	40/B4
DSw1-5	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
DSw1-6	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
DSw1-7	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
DSw1-8	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON

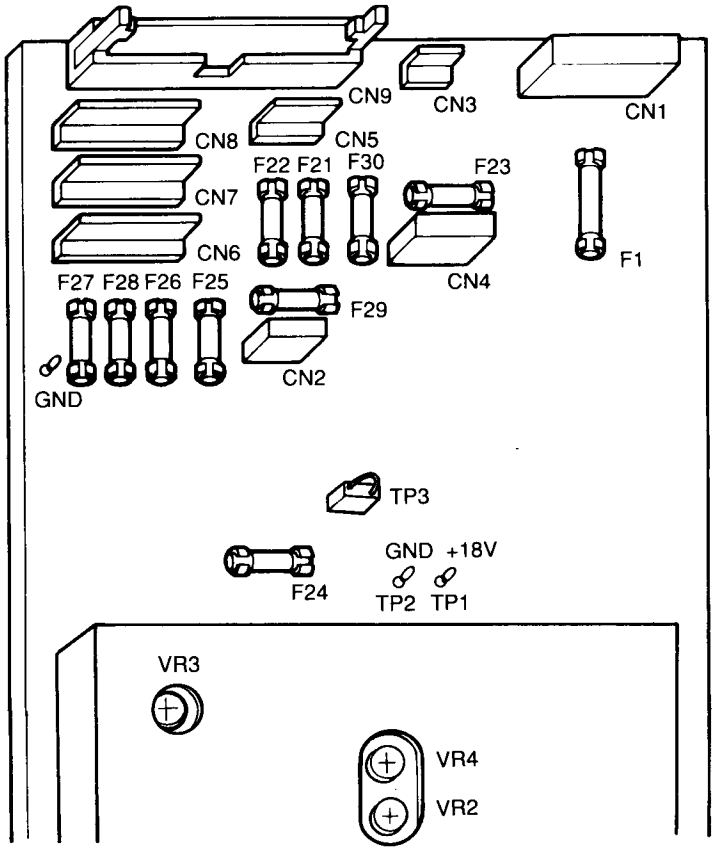

CN6
CN20
16 Pins
System Data Signal 1
System Data Signal 2
System Control Signal 3
System Control Signal 4
GND 5
GND 6
Panel Data Signal 7
Panel Data Signal 8
Panel Control Signal 9
Panel Control Signal 10
GND 11
GND 12
N.C. 13
Reset Signal 14
Reset Signal 15
N.C. 16
System Main PCB (CN3)


CN7
12 Pins
GND 1
GND 2
GND 3
GND 4
+5V (F8) 5
+5V (F8) 6
N.C. 7
Power Fail Signal 8
–12V 9
+12V 10
N.C. 11
N.C. 12
Power Supply PCB (CN6)


CN22
Master-making Density VR
1
2
3
1
2
3
Image Processing PCB III (GA) (CN2)


CN1
34 Pins
GND 1
GND 2
GND 3
+5V (F8) 4
+5V (F8) 5
+5V (F8) 6
Print Position LED Signal 7
Print Position LED Signal 8
Print Position LED Signal 9
Print Position LED Signal 10
Speed LED Signal 11
Speed LED Signal 12
Speed LED Signal 13
N.C. 14
Input SW Digit Signal 15
Input SW Digit Signal 16
Input SW Digit Signal 17
Input SW Digit Signal 18
Input SW Digit Signal 19
Master-making LED 20
Print LED 21
LINE LED 22
PHOTO LED 23
Reduction Ratio LED 24
Reduction Ratio LED 25
Reduction Ratio LED 26
Panel SW Input Signal 27
Panel SW Input Signal 28
Panel SW Input Signal 29
Panel SW Input Signal 30
Panel SW Input Signal 31
Panel SW Input Signal 32
Panel SW Input Signal 33
Panel SW Input Signal 34
Panel SW PCB (CN1)
CN2
26 Pins
(CN8/CN22)
Image Processing PCB (CN2)
1
2
3
Master-making Density VR
GND
Auto-idling Signal
Auto-idling SW
+5V (F8)
Input SW Digit Signal
Input SW Digit Signal
Two-Up Signal
Sub-panel PCB (CN2)
CN3
20 Pins
GND 1
GND 2
+5V (F8) 3
LED Control Signal 4
LED Control Signal 5
LED Control Signal 6
LED Control Signal 7
LED Control Signal 8
N.C. 9
Reset Signal 10
D0 11
D1 12
D2 13
D3 14
D4 15
D5 16
D6 17
D7 18
GND 19
N.C. 20
LCD PCB
CN4
11 Pins
Digit Signal (1) 1
Digit Signal (10) 2
Digit Signal (100) 3
Digit Signal (1000) 4
Seg. Signal (a) 5
Seg. Signal (b) 6
Seg. Signal (c) 7
Seg. Signal (d) 8
Seg. Signal (e) 9
Seg. Signal (f) 10
Seg. Signal (g) 11
7 Seg. PCB
CN5
4 Pins
+5V (F8) 1
2
AC 3
AC 4
LCD PCB

5. POWER SUPPLY PCB



CN

CN1	:	From Main Power Sw
CN2	:	To Main Motor
CN3	:	To Suction Fan
CN4	:	To Thermal Print Head (via Capacitor PCB)
CN5	:	From System Drive PCB
CN6	:	Not Used
CN7	:	To Panel Main PCB
CN8	:	To System Drive PCB
CN9	:	To Image Processing PCB III (GA)
*TP3	:	Jumper connector for Thermal power voltage adjustment

TP

TP1 (+18V)	:	For Check of Thermal power voltage
TP2 (GND)	:	For Check of Thermal power voltage

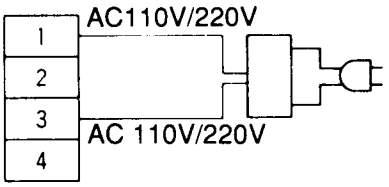
VR

VR1	:	Used only for adjustment in factory
VR2	:	For short-range adjustment of Thermal power voltage
VR3	:	Used only for adjustment in factory
VR4	:	For wide-range adjustment of Thermal power voltage

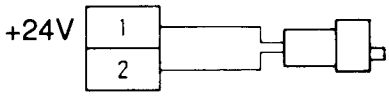
FUSE

No.	Rate	Protected line	Symptoms in case of open-circuited fuse	Relevant components
F1	10A (110V) 5A (220V)	Main Power	No Power	Main Power Sw
F21	3.15A	DC24V	No problem in printing. Master mis-feed in master-making or confidential operation.	Loading pulse motor, Loading fan, Storage fan, Thermal pressure motor, Cutter motor, Write pulse motor
F22	3.15A	DC24V	[T2: Call Service], Paper feed jam, Master removal error	M.-Rmv. vertical transport motor, Master removal solenoid, Separation fan, Pressure solenoid, Paper feed clutch, Elevator motor, Lock solenoid, Inking motor, Counters, Drum home position lamp
F23	1A	DC24 – 18V	Paper receiving jam	Suction fan
F24	8A	DC24V	[T1: Call Service]	Main Motor
F25	3.15A	DC+12V	[T4: Call Service]	Various sensors
F26	3.15A	DC–12V	No LCD indication	
F27	5A	DC5V	No Background light in LCD panel & No Print quantity indication	
F28	5A	DC5V	No power except for Suction fan	
F29	3.15A	DC24V		For optional equipments
F30	3.15A	DC24V	[T5: Call Service]	Clamp motor, Clamp solenoid, Print positioning motor, Read pulse motor

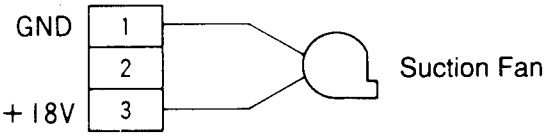
CN1 4 pins



CN2 2 pins

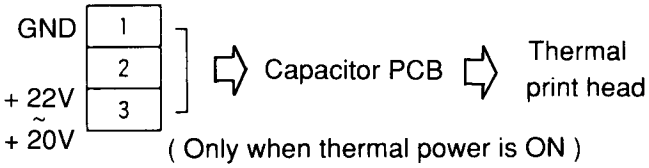


CN3 3 pins



(+24V in high-speed rotation)

CN4 3 pins



(Only when thermal power is ON)

CN5 10 pins

System Drive PCB (CN12)

1	Thermal Print Head Control Signal
2	Suction Fan Control Signal
3	Main Motor Control Signal
4	Main Motor Control Signal
5	Main Motor Control Signal
6	Main Motor Control Signal
7	+24V
8	+24V
9	GND
10	GND

5. Power Supply PCB

CN6 **CN7** **CN8** 12 pins

[Not Used]

Panel Main PCB (CN4)

System Drive PCB (CN12)

1	GND
2	GND
3	GND
4	GND
5	+ 5 V
6	+ 5 V
7	System Reset Signal
8	Power Fail Signal
9	−12V
10	+12V
11	GND
12	+24V

CN9 26 pins

Image Processing PCB III (GA) (CN1)

1	GND
2	GND
3	GND
4	GND
5	GND
6	GND
7	GND
8	GND
9	GND
10	GND
11	+ 5 V
12	+ 5 V
13	+ 5 V
14	+ 5 V
15	+ 5 V
16	+ 5 V
17	−12V
18	−12V
19	+12V
20	+12V
21	GND
22	GND
23	GND
24	GND
25	+24V
26	+24V